

Research on The Path of Empowering China ASEAN Free Trade Area 3.0 with Digital Economy

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ABSTRACT

The China ASEAN Free Trade Area 3.0 version has incorporated the digital economy into its core areas of cooperation, injecting new momentum into regional economic and trade upgrading. Against the backdrop of accelerating global digital transformation and deepening regional economic integration, the digital economy, with its advantages in technological innovation, efficiency improvement, and factor restructuring, has become a key support for breaking through traditional cooperation bottlenecks in free trade zones and expanding emerging cooperation spaces. This article is based on the core demands of the construction of the Free Trade Zone 3.0, analyzing the internal logic and practical foundation of digital economy empowerment. From four dimensions: infrastructure connectivity, rule system construction, deep integration of industries, and ecological synergy cultivation, specific empowerment paths are explored to provide theoretical references and practical guidance for promoting the high-quality development of the China ASEAN Free Trade Zone and building a closer China ASEAN community with a shared future.

KEYWORDS

Digital economy; China ASEAN Free Trade Area Version 3.0; Empowerment path; Regional economic integration

1 Introduction

Since its establishment in 2002, the China ASEAN Free Trade Area has gone through the basic construction of version 1.0 and the upgrading of version 2.0, and has become one of the most dynamic free trade areas in the world. In October 2025, the China ASEAN Free Trade Area 3.0 Upgrade Protocol was officially signed, marking the deep expansion of cooperation between the two sides from traditional trade and investment fields to emerging fields such as digital economy and green economy. As a newly added core area in version 3.0, the digital economy covers multiple dimensions such as cross-border data flow, digital trade, and network security. Its technological characteristics and institutional innovation potential are highly in line with the core goals of the Free Trade Zone 3.0, which are to expand emerging fields, enhance openness, and promote inclusive development. Currently, China and ASEAN have been each other's largest trading partners for several consecutive years, with a bilateral trade volume of 982.3 billion US dollars by 2024, providing a solid practical foundation for empowering the digital economy. However, at the same time, the uneven development of digital infrastructure, inconsistent rules and standards, and digital divide within the region still constrain the full release of cooperation effectiveness. In this context, the systematic study of the path of empowering the construction of the 3.0 version of the Free Trade Zone with the digital economy can not only promote the free flow of digital elements and deep integration of industries on both sides, but also provide important guarantees for regional economy to resist external risks and achieve high-quality growth, which has profound practical significance and strategic value.

2 Literature review

The current academic community has formed diverse research perspectives on the interactive relationship between the digital economy and the construction of regional free trade zones, providing a solid theoretical foundation for the study of the construction of the China ASEAN Free Trade Zone 3.0 version. At the theoretical level of empowering regional economic integration with the digital economy, representative scholars of the New New Trade Theory have demonstrated through models that digital technology can significantly improve the accessibility and efficiency of regional trade by reducing the cost of information asymmetry and breaking temporal and spatial limitations, providing core support for the transformation of free trade zones from traditional factor cooperation to innovation driven development. Some scholars further point out that as a new type of production factor, the cross-border flow and efficient allocation ability of data directly determine the depth of regional cooperation. This viewpoint provides a theoretical basis for the inclusion of the digital economy in the core cooperation areas of the Free Trade Zone 3.0 version.

In terms of practical research, the relevant achievements of the China ASEAN Free Trade Area mainly focus on three dimensions: research on digital infrastructure connectivity. Scholars have affirmed the role of hardware construction such as 5G and cross-border optical cables in driving bilateral trade, but also pointed out problems such as uneven development of digital infrastructure and insufficient connectivity within the region; Collaborative research on digital rules, existing literature focuses on core issues such as cross-border data flows and digital trade tariffs, emphasizing that rule fragmentation is a key obstacle to deepening cooperation; Research on industrial integration practices has mostly focused on the effectiveness of cooperation in cross-border e-commerce, digital services, and other fields. It is believed that the potential for integration between digital technology and traditional industries has not been fully unleashed^[1].

Overall, existing research has identified the significant role of the digital economy in upgrading free trade zones, but there are still research gaps. There is relatively little specialized research on the newly added digital economy cooperation clauses in the 3.0 version of the Free Trade Zone, and there is a lack of systematic analysis on the collaborative empowerment path of digital technology, institutional rules, and industrial integration, which has become the core research entry point of this article.

3 The core logic of empowering the construction of China ASEAN Free Trade Area 3.0 with the digital economy

The essence of empowering the construction of the 3.0 version of the Free Trade Zone with the digital economy is to reconstruct the element allocation mode, industrial linkage mode, and governance system of regional economic and trade cooperation through digital technology innovation and institutional rule coordination, and achieve the transformation from "element driven" to "innovation driven". From the perspective of empowerment mechanism, the digital economy takes data as the core production factor, breaks the temporal and spatial limitations of traditional trade, and reduces trade costs and improves circulation efficiency through the "hard connected" digital infrastructure and the "soft connected" rule system. For example, digital applications such as single window and electronic invoices can simplify customs clearance processes, and cross-border data flow can promote upstream and downstream collaboration in the industrial chain. These are highly compatible with the goal of strengthening supply chain connectivity and improving trade facilitation in the Free Trade Zone 3.0 version.

From a value perspective, the digital economy not only provides technological support for the transformation and upgrading of traditional industries, but also promotes digital transformation in fields such as agricultural products and manufacturing; It can also give rise to emerging industrial forms such as digital trade, financial technology, and artificial intelligence, expanding the breadth and depth of cooperation in free trade zones. At the same time, the inclusive characteristics of the digital economy can be achieved by supporting the digital transformation of small and medium-sized enterprises, narrowing the regional digital divide, and helping the Free Trade Zone 3.0 version achieve inclusive development goals, allowing cooperation results to benefit more groups^[2].

4 The real foundation of empowering the construction of China ASEAN free trade area 3.0 with digital economy

4.1 Policy synergy lays the institutional foundation

The 3.0 version of the Free Trade Zone Protocol has established the highest level of digital economy rules system in the region, clarifying core measures such as temporarily exempting customs duties on electronic transmission, ensuring cross-border data flow, and strengthening personal information protection, providing institutional guarantees for digital economy cooperation. At the same time, China's "Digital Silk Road" initiative has been deeply integrated with ASEAN's "Digital ASEAN 2025" plan, forming a multi-level and cross disciplinary policy coordination pattern, creating favorable conditions for the implementation of cooperation.

4.2 Market demand provides endogenous driving force

The continuous vitality of the digital economy markets in China and ASEAN injects strong endogenous momentum into the construction of the Free Trade Zone 3.0. The scale of digital economy on both sides is steadily expanding, and the penetration rate of digital applications such as e-commerce, mobile payments, and online services is constantly increasing. The demand for digital transformation of enterprises and the demand for digital consumption of the public are becoming increasingly strong, promoting the sustained growth of regional digital trade scale. The complementary cooperation between the two sides is significant. China's advantages in the research and application of digital technologies such as 5G, artificial intelligence, and big data have formed a positive interaction with ASEAN's vast market space and strong infrastructure demand, providing a broad scene for the landing of digital technologies and industrial cooperation, and forming the core driving force for empowering the digital economy^[3].

4.3 Accumulate valuable experience through collaborative practice

In recent years, China ASEAN digital economy cooperation has achieved multiple phased results, laying a solid practical foundation for the construction of the Free Trade Zone 3.0. Both parties have carried out multiple pilot projects in key areas such as digital identity mutual recognition, electronic authentication, and network security, forming a replicable cooperation model. The scale of cross-border e-commerce platforms continues to expand, and supporting systems such as logistics and payment are constantly improving; The orderly promotion of digital infrastructure interconnection projects has achieved significant results in hardware construction such as cross-border optical cables and 5G cooperation.

5 The practical path of empowering the construction of China ASEAN free trade area 3.0 with digital economy

5.1 Strengthen the connectivity of digital infrastructure and build strong hardware support for

empowerment

Digital infrastructure is the core prerequisite for empowering the construction of the China ASEAN Free Trade Area 3.0 version with the digital economy. It is necessary to adhere to the dual wheel drive of "hard connectivity" and "soft connectivity", and build a comprehensive and multi-level digital support system. At the hardware construction level, we will focus on the layout of the new generation of information infrastructure, accelerate the landing of 5G base stations, fiber optic networks, data centers, etc. in the ASEAN region, and tilt resources towards underdeveloped areas in ASEAN. Through special cooperation projects, technical assistance, and other means, we will narrow the development gap of digital infrastructure in the region and overcome the constraints of the digital divide^[4]. Deepen the construction of backbone networks such as cross-border optical cables and satellite communications, optimize network topology, enhance regional network connectivity and data transmission speed, and ensure efficient and secure flow of cross-border data. At the software collaboration level, with the goal of improving trade facilitation, we aim to promote the interconnection of digital applications such as single windows, electronic invoices, electronic payments, and electronic bills of lading between both parties, unify technical standards and data formats, improve system compatibility and business processing efficiency, and reduce cross-border trade costs for enterprises. Strengthen the digital upgrading of cross-border logistics, promote multimodal transport information platforms, integrate data from multiple fields such as logistics, customs, and warehousing, optimize digital service processes at ports, solve logistics transportation bottlenecks, enhance the connectivity, stability, and resilience of regional supply chains, and build a dual hardware and software support for the deep empowerment of the digital economy.

5.2 Building a unified digital rule system and breaking institutional barriers

Rule coordination is the core guarantee for the efficient empowerment of the China ASEAN Free Trade Area 3.0 in the digital economy. It is necessary to follow the protocol of the Free Trade Area 3.0 as the fundamental principle, build a unified, compatible, and operable regional digital economy rule system, and overcome institutional barriers. In the field of data governance, we focus on the core issue of cross-border data flow, refine classification and grading management rules, clarify the cross-border flow paths and security requirements for different types of data, explore the establishment of a mutual recognition mechanism for data protection levels within the region, and break down institutional barriers to the free flow of data elements while adhering to the bottom line of data security. Deepen regulatory coordination in areas such as personal information protection, network security, and anti fraud, establish cross-border risk warning and joint disposal mechanisms, and achieve a dynamic balance between security and development.

In the field of digital trade, we will strictly implement the promise of temporary tariff exemption for electronic transmission, clean up and cancel unreasonable restrictions in digital product trade, and eliminate hidden trade barriers. Promote cross-border mutual recognition of electronic authentication and electronic signatures, unify relevant technical standards and application specifications, and enhance the level of digital trade facilitation. Jointly develop a digital trade standard system, clarify core rules such as market access and fair competition for digital services, and create a transparent, stable, and predictable market environment for digital enterprises on both sides^[5]. Establish a dynamic feedback mechanism for implementing rules, facilitate communication channels between the government, enterprises, and industry associations, continuously optimize the content of rules based on technological iteration and practical needs, enhance the adaptability and operability of rules, and provide solid institutional support for deep cooperation in the digital economy.

5.3 Promote the deep integration of digital industries and cultivate new growth engines

Industrial integration is the core carrier of empowering the digital economy, and it is necessary to promote the deep integration of digital technology with the real economy, emerging industries with traditional industries. In the transformation of traditional industries, digital technology needs to be used as a link to promote the quality and efficiency improvement of ASEAN's traditional industries. Relying on core technologies such as big data and artificial intelligence, focusing on ASEAN advantageous areas such as agricultural product processing and manufacturing, carrying out digital transformation of production processes, optimizing key links such as production scheduling and quality inspection, significantly improving production efficiency and product standardization level. Build a cross-border digital technology cooperation platform, integrate China's advantageous resources in digital technology research and development, application scenarios, etc., and promote the precise transfer and transformation of digital technology achievements to ASEAN. Through technical training, joint research and development, and other means, we aim to strengthen the digital application capabilities of ASEAN local enterprises, help them overcome technological bottlenecks, achieve the transformation of traditional industries towards digitalization and intelligence, and consolidate the foundation for regional industrial integration and development.

In terms of cultivating emerging industries, we will focus on deepening cooperation in the forefront of the digital economy and creating a new engine for regional economic growth. We will focus on promoting collaborative innovation in fields such as digital trade, financial technology, and artificial intelligence, plan and construct cross-border digital industrial parks, build gathering platforms for policy sharing and resource integration, attract Chinese enterprises and

ASEAN digital enterprises to settle and develop, and form an industrial cluster effect. Support the upgrading of cross-border e-commerce platforms, improve supporting systems such as intelligent cross-border logistics scheduling, multi currency payment settlement, and cross-border after-sales services, eliminate barriers to digital trade circulation, and continuously expand trade scale. At the same time, we will explore the potential of emerging sub sectors such as digital identity authentication and digital cultural and creative industries, carry out technology research and development and market application cooperation, cultivate distinctive regional digital economy growth points, and broaden the cooperation dimensions of the Free Trade Zone 3.0 version.

5.4 Cultivate a digital collaborative ecosystem to promote inclusive and sustainable development

Cultivating an inclusive, collaborative, and sustainable digital cooperation ecosystem is a key guarantee for the sustained empowerment of the China ASEAN Free Trade Area 3.0 construction by the digital economy. It is necessary to balance development efficiency with fairness and inclusiveness, and promote the deepening of cooperation. Build a comprehensive cooperation platform for the digital economy between China and ASEAN, effectively integrating multiple resources from government departments, leading enterprises, research institutions, industry associations, etc., focusing on core needs such as technology joint research and development, high-quality project docking, market resource sharing, and policy coordination communication, and constructing a comprehensive cooperation network. To address the pain points of digital transformation for small and medium-sized enterprises, special support policies have been launched, providing subsidies for digital transformation, customized technical training, low threshold financing services, and low-cost digital tools to lower the threshold for transformation and enable small and medium-sized enterprises to equally share the dividends of digital economy development. Strengthen the joint training of digital talents, and through the establishment of training bases, cross-border training projects, and deepening academic exchanges and cooperation, target the cultivation of composite talents with digital technology application ability, international economic and trade literacy, and cross-cultural communication ability, to fill the regional digital talent gap^[6]. Promote the deep integration of digitalization and greenization, deepen the application of digital technology in green energy, circular economy, low-carbon manufacturing and other fields, optimize energy supply and demand allocation using big data, improve environmental monitoring accuracy with the help of artificial intelligence, assist regions in achieving carbon reduction goals through digital means, build a green and low-carbon digital economic development model, and promote the inclusive and sustainable high-quality development of the Free Trade Zone 3.0 version.

6 Conclusion

Empowering the construction of the China ASEAN Free Trade Area 3.0 with the digital economy is an inevitable choice to follow the global trend of digital transformation and deepen regional economic integration. It is also an important support for building a closer China ASEAN community with a shared future. By strengthening the connectivity of digital infrastructure, building a unified digital rule system, promoting deep integration of digital industries, and cultivating a digital cooperation ecosystem, we can fully unleash the innovative vitality and empowerment effects of the digital economy, break through traditional bottlenecks in regional cooperation, and expand emerging cooperation spaces. In the future, China and ASEAN need to take the signing of the 3.0 version of the Free Trade Zone Protocol as an opportunity, adhere to the principles of mutual benefit and inclusive development, continue to deepen policy coordination, technical cooperation, and talent exchange in the field of digital economy, continuously improve empowerment paths, resolve cooperation risks, and make the digital economy the core engine for promoting high-quality development of the Free Trade Zone, injecting lasting momentum into regional economic growth, and providing demonstration samples for global digital economy cooperation.

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